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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,241	07/31/2001	David G. Miller	10003791-1	2808

24737 7590 05/02/2003

PHILIPS ELECTRONICS NORTH AMERICAN CORP  
580 WHITE PLAINS RD  
TARRYTOWN, NY 10591

EXAMINER

CHAPMAN JR, JOHN E

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 05/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/919,241

Applicant(s)

MILLER, DAVID G.

Examiner

John E Chapman

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 6-26 is/are pending in the application.
- 4a) Of the above claim(s) 12-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-3, 6-8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al.

Smith et al. discloses an ultrasonic transducer comprising a plurality of piezoelectric elements 560A, 560B mounted on a ceramic base 520 comprising a plurality of posts. Smith et al. also teaches fabricating transmit/receive integrated circuits on a silicon wafer (see col. 19, lines 55-57). Accordingly, it would have been obvious to mount the plurality of piezoelectric elements 560A, 560B on a silicon wafer 520 in order to fabricate a transmit/receive integrated circuit.

Regarding claim 8, germanium is a well known equivalent to silicon for use as a substrate, and accordingly would have been an obvious choice of material to use in lieu of silicon for the wafer.

Regarding claim 10, the acoustic impedance of the wafer is necessarily affected by the presence of cavities, since the acoustic impedance is a function of the structure of the wafer.

Regarding claim 11, polyimide connector 510 is bonded to the base 520.

3. Claims 1-3 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanafy in view of Smith et al.

Hanafy discloses an ultrasonic transducer comprising a plurality of piezoelectric elements X1-X5 mounted on a base 5 comprising a plurality of posts. The only difference between the claimed invention and the prior art consists in using a silicon wafer for the base 5. Smith et al. teaches fabricating transmit/receive integrated circuits on a silicon wafer (see col. 19, lines 55-57). Accordingly, it would have been obvious to mount the plurality of piezoelectric elements X1-X5 of Hanafy on a silicon wafer 5 in order to fabricate transmit/receive integrated circuits.

Regarding claim 8, germanium is a well known equivalent to silicon for use as a substrate, and accordingly would have been an obvious choice of material to use in lieu of silicon for the base.

Regarding claim 10, the acoustic impedance of the wafer is necessarily affected by the presence of cavities, since the acoustic impedance is a function of the structure of the wafer.

Regarding claim 11, Smith et al. teaches bonding polyimide connector 510 to the base 520.


4. Applicant's arguments filed April 7, 2003 have been fully considered but they are not persuasive. Applicant claims to have amended claim 1 to include the limitations of claim 5. However, applicant has amended claim 1 to include the limitations of claim 5 in the alternative with the limitations of claim 4. Accordingly, the rejections of claim 4 in the prior Office action are applicable to amended claim 1.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Chapman whose telephone number is (703) 305-4920.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

  
**JOHN E. CHAPMAN**  
**PRIMARY EXAMINER**